

## High-Performance VPN

- Protocols
  - IPSec
  - PPTP
  - L2TP
  - SSL
- VPN Tunnels
  - Up to 25 (DSR-250/250N)
  - Up to 35 (DSR-500/500N)
  - Up to 70 (DSR-1000/1000N)
- SSL VPN tunnels
  - Up to 5 (DSR-250/250N)
  - Up to 10 (DSR-500/500N)
  - Up to 20 (DSR-1000/1000N)
- DES, 3DES, AES Encryption
- Main/Aggressive Negotiation

## Wireless Access and Security<sup>1</sup>

- IEEE 802.11 a<sup>2</sup>/b/g/n (2.4 GHz, 5 GHz<sup>2</sup>)
- IEEE 802.1x RADIUS Authentication with EAP-TLS, EAP-TLS, EAP-PEAP
- WPS, WEP, WPA-PSK, WPA-EAP, WPA2-PSK, WPA2-EAP

## Enhanced Network Services

- IPv6
- DHCP Server/ Relay
- Dynamic DNS
- IEEE 802.1q VLAN
- Multiple SSIDs
- SSID-to-VLAN Mapping

## Content Filtering

- Static URL Address Filtering
- Keyword Filtering

## Fault Tolerance<sup>3</sup>

- WAN Traffic Failover
- Outbound Load Balancing

<sup>1</sup> DSR-250N/500N, and DSR-1000N only

<sup>2</sup> DSR-1000N only

<sup>3</sup> DSR-500/500N/1000, and 1000N only

## Unified Services Routers



D-Link Unified Services Routers provide secure, high performance networking solutions to address the growing needs of small and medium businesses. The integrated high-speed IEEE 802.11n wireless technology in the DSR-250N, DSR-500N, and the DSR-1000N routers offers comparable performance to traditional wired networks, but with fewer limitations. Each router provides optimal network security via features such as Virtual Private Network (VPN) tunnels, IP Security (IPSec), Point-to-Point Tunneling Protocol (PPTP), Layer 2 Tunneling Protocol (L2TP), and Secure Sockets Layer (SSL). These routers also allow you to empower your road warriors with clientless remote access anywhere and anytime using SSL VPN tunnels.

### Comprehensive Management Capabilities

The DSR-500/500N and DSR-1000/1000N include dual-WAN Gigabit Ethernet that provides policy-based service management to ensure maximum productivity for your business operations. The failover feature maintains data traffic without disconnecting when a landline connection is lost. The Outbound Load Balancing feature adjusts outgoing traffic across two WAN interfaces and optimizes system performance, resulting in high availability. The second WAN port can be configured as a DMZ port, allowing you to isolate servers from your LAN.

### Superior Wireless Performance

Designed to deliver superior wireless performance, the DSR-250N, DSR-500N, and DSR-1000N include 802.11a<sup>2</sup>/b/g/n, allowing for operation on either the 2.4 GHz or 5 GHz<sup>2</sup> wireless LAN radio bands. Multiple In Multiple Out (MIMO) technology allows the DSR-250N, DSR-500N and DSR-1000N to provide high data rates and a wide wireless coverage area with minimized "dead spots."

### Robust VPN Features

A fully featured virtual private network (VPN) provides your mobile workers and branch offices with a secure link to your network. The DSR-250/250N, DSR-500/500N, and DSR-1000/1000N are capable of simultaneously managing 5, 10, or 20 Secure Sockets Layer (SSL) VPN tunnels respectively, empowering your mobile users by providing remote access to a central corporate database. Site-to-site VPN tunnels use IP Security (IPSec) Protocol, Point-to-Point Tunneling Protocol (PPTP), or Layer 2 Tunneling Protocol (L2TP) to facilitate branch office connectivity through encrypted virtual links. The DSR-250/250N supports up to 25 simultaneous VPN tunnels, the DSR-500/500N supports up to 35 VPN tunnels, and the DSR-1000/1000N supports up to 70 VPN tunnels.

### Efficient Green Technology

As a concerned member of the global community, D-Link is devoted to providing eco-friendly products. D-Link Green Wi-Fi and D-Link Green Ethernet features save power and help cut energy usage costs. The D-Link Green WLAN Scheduler shuts down your wireless network automatically according to a schedule you define, allowing you to turn off your wireless network during off-peak hours, saving energy and keeping your network secure. The D-Link Green Ethernet feature can detect the length of the cables connected to the router, and can adjust power usage accordingly to save energy automatically without sacrificing performance. It can also detect if a link is down on a port, and automatically puts that port into a sleep mode that drastically reduces the amount of power used. In addition, compliance with RoHS (Restriction of Hazardous Substances) and WEEE (Waste Electrical and Electronic Equipment) directives make D-Link Green certified devices an environmentally responsible choice.



## DSR-250

- 8 Gigabit LAN Ports
- Gigabit WAN Port
- USB 2.0 Port

## DSR-500

- 4 Gigabit Ethernet LAN Ports
- 2 Gigabit Ethernet WAN Ports
- USB 2.0 Port

## DSR-1000

- 4 Gigabit Ethernet LAN Ports
- 2 Gigabit Ethernet WAN Ports
- 2 USB 2.0 Ports

## DSR-250N

- IEEE 802.11b/g/n wireless LAN (2.4 GHz)
- 8 Gigabit LAN Ports
- Gigabit WAN Port
- USB 2.0 Port

## DSR-500N

- IEEE 802.11b/g/n wireless LAN (2.4 GHz)
- 4 Gigabit Ethernet LAN Ports
- 2 Gigabit Ethernet WAN Ports
- USB 2.0 Port

## DSR-1000N

- IEEE 802.11a/b/g/n wireless LAN (2.4 GHz/5 GHz)
- 4 Gigabit Ethernet LAN Ports
- 2 Gigabit Ethernet WAN Ports
- 2 USB 2.0 Ports



## Green Wi-Fi<sup>4</sup>

WLAN ON

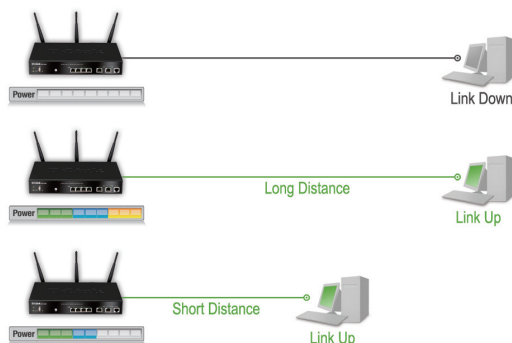


WLAN OFF



The WLAN Scheduler shuts down the WLAN during off-peak hours to enhance network security and save power.

## Green Ethernet



D-Link Green Ethernet detects link status and cable length and adjusts power usage accordingly.

## USB 2.0 Extension

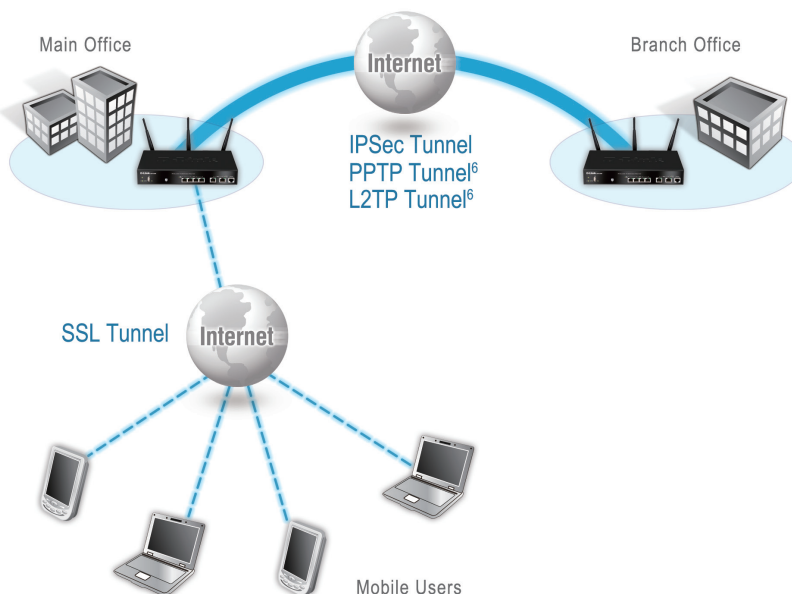


Supports one (DSR-250/250N/500/500N) or two (DSR-1000/1000N) USB 2.0 devices to extend functionality via D-Link's SharePort feature.

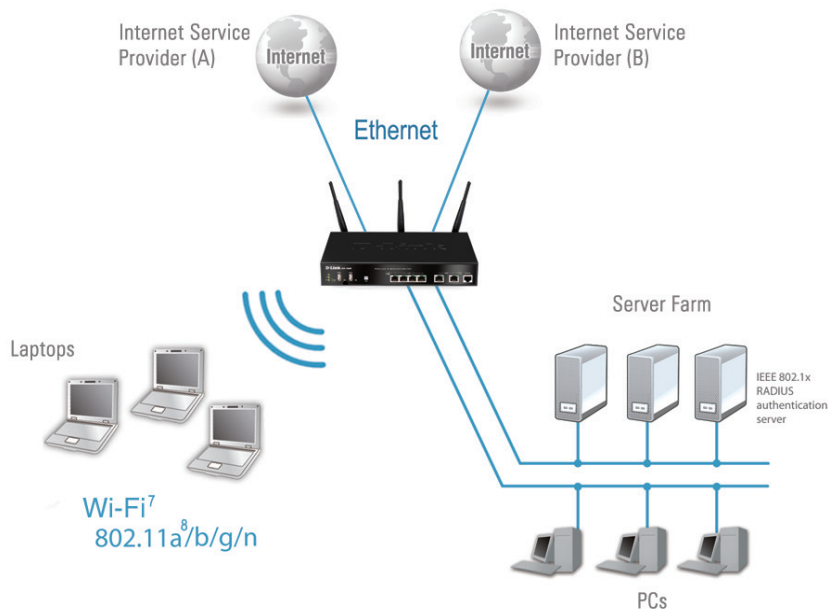
<sup>4</sup> DSR-250N/500N, and DSR-1000N only

<sup>5</sup> Printer support list can be referred to at <http://www.openprinting.org/printers>

## Secure VPN Network Implementation






## Dual WAN for Redundant Internet












<sup>6</sup> Available with future firmware upgrade




<sup>7</sup> DSR-500N and DSR-1000N only


<sup>8</sup> DSR-1000N only

| Technical Specifications         |                                   | DSR-250N  | DSR-500N   | DSR-1000N   |
|----------------------------------|-----------------------------------|---|--|---|
|                                  |                                   |  |  |  |
| Interface                        | Ethernet                          | 10/100/1000 Mbps WAN Port<br>8 10/100/1000 Mbps LAN Ports                         | 2 10/100/1000 Mbps WAN Ports<br>4 10/100/1000 Mbps LAN Ports                       | 2 10/100/1000 Mbps WAN Ports<br>4 10/100/1000 Mbps LAN Ports                        |
|                                  | Wireless                          | 802.11b/g/n (Single Band)<br>2 Detachable 2dBi Omni-Directional Antennas          | 802.11b/g/n (Single Band)<br>3 Detachable 2dBi Omni-Directional Antennas           | 802.11a/b/g/n (Dual Band)<br>3 Detachable 2dBi Omni-Directional Antennas            |
|                                  | USB 2.0 Ports                     | 1   | 1  | 2   |
|                                  | Console                           | 1 RJ-45   | 1 RJ-45  | 1 RJ-45   |
| System Performance <sup>10</sup> | Firewall Throughput <sup>9</sup>  | 45 Mbps   | 70 Mbps  | 130 Mbps  |
|                                  | VPN Throughput <sup>11</sup>      | 35 Mbps   | 70 Mbps  | 100 Mbps  |
|                                  | Concurrent Sessions               | 20,000  | 30,000   | 60,000  |
|                                  | New Sessions (per second)         | 200   | 300  | 600   |
|                                  | Firewall Policies                 | 200   | 300  | 600   |
| Internet Connection Type         | Static/ Dynamic IP                | ✓   | ✓  | ✓   |
|                                  | PPPoE/ L2TP/ PPTP                 | ✓   | ✓  | ✓   |
|                                  | Multiple PPPoE                    | ✓   | ✓  | ✓   |
| Firewall System                  | Static Route                      | ✓   | ✓  | ✓   |
|                                  | Dynamic Route                     | —   | RIPv1, RIP v2, OSPF <sup>12</sup>  |   |
|                                  | Dynamic DNS                       | ✓   | ✓  | ✓   |
|                                  | Inter-VLAN Route                  | ✓   | ✓  | ✓   |
|                                  | NAT, PAT                          | ✓   | ✓  | ✓   |
|                                  | Web Content Filtering             | Static URL, Keywords  |  |   |
|                                  | Intrusion Prevention System (IPS) | Signature package included in Firmware  |  |   |
| Networking                       | DHCP Server/ Client               | ✓   | ✓  | ✓   |
|                                  | DHCP Relay                        | ✓   | ✓  | ✓   |
|                                  | IEEE802.1q VLAN                   | ✓   | ✓  | ✓   |
|                                  | VLAN (Port-Based)                 | ✓   | ✓  | ✓   |
|                                  | IP Multicast                      | IGMP Proxy  |  |   |
|                                  | IPv6                              | ✓   | ✓  | ✓   |
|                                  | Route Failover                    | —   | ✓  | ✓   |
|                                  | Outbound Load Balancing           | —   | ✓  | ✓   |

| Technical Specifications         |                                   | DSR-250   | DSR-500  | DSR-1000  |
|----------------------------------|-----------------------------------|---|--|---|
|                                  |                                   |  |  |  |
| Interface                        | Ethernet                          | 10/100/1000 Mbps WAN Ports<br>8 10/100/1000 Mbps LAN Ports                        | 2 10/100/1000 Mbps WAN Ports<br>4 10/100/1000 Mbps LAN Ports                       | 2 10/100/1000 Mbps WAN Ports<br>4 10/100/1000 Mbps LAN Ports                        |
|                                  | Wireless                          | —   | —  | —   |
|                                  | USB 2.0 Ports                     | 1   | 1  | 2   |
|                                  | Console                           | 1 RJ-45   |  |   |
| System Performance <sup>10</sup> | Firewall Throughput <sup>9</sup>  | 45 Mbps   | 70 Mbps  | 130 Mbps  |
|                                  | VPN Throughput <sup>11</sup>      | 35 Mbps   | 70 Mbps  | 100 Mbps  |
|                                  | Concurrent Sessions               | 20,000  | 30,000   | 60,000  |
|                                  | New Sessions (per second)         | 200   | 300  | 600   |
|                                  | Firewall Policies                 | 200   | 300  | 600   |
| Internet Connection Type         | Static/ Dynamic IP                | ✓   | ✓  | ✓   |
|                                  | PPPoE/ L2TP/ PPTP                 | ✓   | ✓  | ✓   |
|                                  | Multiple PPPoE                    | ✓   | ✓  | ✓   |
| Firewall System                  | Static Route                      | ✓   | ✓  | ✓   |
|                                  | Dynamic Route                     | —   | RIPv1, RIP v2, OSPF <sup>12</sup>  | RIPv1, RIP v2, OSPF <sup>12</sup>   |
|                                  | Dynamic DNS                       | ✓   | ✓  | ✓   |
|                                  | Inter-VLAN Route                  | ✓   | ✓  | ✓   |
|                                  | NAT, PAT                          | ✓   | ✓  | ✓   |
|                                  | Web Content Filtering             | Static URL, Keywords  |  |   |
|                                  | Intrusion Prevention System (IPS) | Signature package included in Firmware  |  |   |
| Networking                       | DHCP Server/ Client               | ✓   | ✓  | ✓   |
|                                  | DHCP Relay                        | ✓   | ✓  | ✓   |
|                                  | IEEE802.1q VLAN                   | ✓   | ✓  | ✓   |
|                                  | VLAN (Port-Based)                 | ✓   | ✓  | ✓   |
|                                  | IP Multicast                      | IGMP Proxy  |  |   |
|                                  | IPv6                              | ✓   | ✓  | ✓   |
|                                  | Route Failover                    | —   | ✓  | ✓   |
|                                  | Outbound Load Balancing           | —   | ✓  | ✓   |

| Technical Specifications              |   | DSR-250N  | DSR-500N  | DSR-1000N   |
|---------------------------------------|---|---|---|---|
|                                       |   |    |   |    |
| Wireless                              | Multiple Service Set Identifier (SSID)        | ✓   | ✓   | ✓   |
|                                       | Service Set Identifier (SSID) to VLAN Mapping | ✓   | ✓   | ✓   |
|                                       | Wireless Security                             | Wired Equivalent Privacy (WEP)<br>Wi-Fi Protect Setup (WPS)<br>Wi-Fi Protected Access – Personal (WPA-PSK)<br>Wi-Fi Protected Access – Enterprise (WPA-EAP)<br>Wi-Fi Protected Access version 2 – Personal (WPA-PSK)<br>Wi-Fi Protected Access version 2 – Enterprise (WPA-EAP) | Wired Equivalent Privacy (WEP)<br>Wi-Fi Protect Setup (WPS)<br>Wi-Fi Protected Access – Personal (WPA-PSK)<br>Wi-Fi Protected Access – Enterprise (WPA-EAP)<br>Wi-Fi Protected Access version 2 – Personal (WPA-PSK)<br>Wi-Fi Protected Access version 2 – Enterprise (WPA-EAP) | Wired Equivalent Privacy (WEP)<br>Wi-Fi Protect Setup (WPS)<br>Wi-Fi Protected Access – Personal (WPA-PSK)<br>Wi-Fi Protected Access – Enterprise (WPA-EAP)<br>Wi-Fi Protected Access version 2 – Personal (WPA-PSK)<br>Wi-Fi Protected Access version 2 – Enterprise (WPA-EAP) |
| Wi-Fi                                 | Certification                                 |    |   |    |
| Virtual Private Network (VPN)         | VPN Tunnels                                   | 25  | 35  | 70  |
|                                       | Encryption Methods                            | DES, 3DES, AES, Twofish, Blowfish, CAST-128, NULL   |   |   |
|                                       | IPSec/PPTP/L2TP Server                        | ✓   | ✓   | ✓   |
|                                       | PPTP/L2TP Clients                             | 25/25   | 25/25   | 25/25   |
|                                       | IPSec NAT Traversal                           | ✓   | ✓   | ✓   |
|                                       | Dead Peer Detection                           | ✓   | ✓   | ✓   |
|                                       | IP Encapsulating Security Payload (ESP)       | ✓   | ✓   | ✓   |
|                                       | IP Authentication Header (AH)                 | ✓   | ✓   | ✓   |
|                                       | VPN Tunnel Keep Alive                         | ✓   | ✓   | ✓   |
|                                       | Hub and Spoke                                 | ✓   | ✓   | ✓   |
| SSL Virtual Private Network (SSL VPN) | SSL VPN Tunnel                                | 5   | 10  | 20  |
|                                       | SSL Encryption Methods                        | DES, 3DES, AES  |   |   |
|                                       | SSL Message Integrity                         | MD5, SHA1   |   |   |
| Bandwidth Management                  | Max. Bandwidth Control                        | ✓   | ✓   | ✓   |
|                                       | Priority Bandwidth Control                    | Port-Based QoS<br>3 Classes   |   |   |

| Technical Specifications              |   | DSR-250   | DSR-500  | DSR-1000  |
|---------------------------------------|---|---|--|---|
|                                       |   |  |  |  |
| Wireless                              | Multiple Service Set Identifier (SSID)        | —   | —  | —   |
|                                       | Service Set Identifier (SSID) to VLAN Mapping | —   | —  | —   |
|                                       | Wireless Security                             | —   | —  | —   |
| Wi-Fi                                 | Certification                                 | —   | —  | —   |
| Virtual Private Network (VPN)         | VPN Tunnels                                   | 25  | 35   | 70  |
|                                       | Encryption Methods                            | DES, 3DES, AES, Twofish, Blowfish, CAST-128, NULL                                 |  |   |
|                                       | IPSec/PPTP/L2TP Server                        | ✓   | ✓  | ✓   |
|                                       | PPTP/L2TP Clients                             | 25/25   | 25/25  | 25/25   |
|                                       | IPSec NAT Traversal                           | ✓   | ✓  | ✓   |
|                                       | Dead Peer Detection                           | ✓   | ✓  | ✓   |
|                                       | IP Encapsulating Security Payload (ESP)       | ✓   | ✓  | ✓   |
|                                       | IP Authentication Header (AH)                 | ✓   | ✓  | ✓   |
|                                       | VPN Tunnel Keep Alive                         | ✓   | ✓  | ✓   |
|                                       | Hub and Spoke                                 | ✓   | ✓  | ✓   |
| SSL Virtual Private Network (SSL VPN) | SSL VPN Tunnel                                | 5   | 10   | 20  |
|                                       | SSL Encryption Methods                        | DES, 3DES, AES  |  |   |
|                                       | SSL Message Integrity                         | MD5, SHA1   |  |   |
| Bandwidth Management                  | Max. Bandwidth Control                        | ✓   | ✓  | ✓   |
|                                       | Priority Bandwidth Control                    | Port-Based QoS<br>3 Classes   |  |   |

| Technical Specifications |                          | DSR-250N  | DSR-500N   | DSR-1000N   |
|--------------------------|--------------------------|---|--|---|
|                          |                          |  |  |  |
| System Management        | Web-based User Interface | HTTP, HTTPS   |  |   |
|                          | Command Line             | ✓   | ✓  | ✓   |
|                          | SNMP                     | v1, v2c, v3   |  |   |
| Physical & Environment   | Power Supply             | External Power Supply Unit<br>DC 12 V / 1.5 A                                     | Internal Power Supply Unit<br>DC 12 V / 2.5 A                                      |   |
|                          | Max. Power Consumption   | 12.6 W  | 16.8 W   | 19.3 W  |
|                          | Dimensions (L x W x H)   | 140 x 203 x 35 mm<br>(5.51 x 8.0 x 1.38 inches)                                   | 180 x 280 x 44 mm<br>(7.09 x 11.02 x 1.73 inches)                                  |   |
|                          | Operation Temperature    | 0 to 40 °C  |  |   |
|                          | Storage Temperature      | -20 to 70 °C  |  |   |
|                          | Operation Humidity       | 5% to 95% non-condensing  |  |   |
|                          | EMI/EMC                  | FCC Class B, CE Class B, C-Tick   | FCC Class B, CE Class B, C-Tick, IC  | FCC Class B, CE Class B, VCCI, C-Tick, IC   |
|                          | Safety                   | cUL, LVD (EN60950-1)  |  |   |
|                          | MTBF                     | 250,000 hours   | 260,000 hours  |   |



| Technical Specifications | DSR-250 | DSR-500 | DSR-1000 |
|--------------------------|---------|---------|----------|
|--------------------------|---------|---------|----------|



|                        |                          |   |   |   |
|------------------------|--------------------------|---|---|---|
| System Management      | Web-based User Interface | HTTP, HTTPS                                     |   |   |
|                        | Command Line             | ✓   | ✓   | ✓   |
|                        | SNMP                     | v1, v2c, v3                                     |   |   |
| Physical & Environment | Power Supply             | External Power Supply Unit<br>DC 12 V / 1.5 A   | Internal Power Supply Unit<br>DC 12 V / 2.5 A     | Internal Power Supply Unit<br>DC 12 V / 2.5 A |
|                        | Max. Power Consumption   | 11.8 W  | 15.6 W  | 17.2 W  |
|                        | Dimensions (L x W x H)   | 140 x 203 x 35 mm<br>(5.51 x 8.0 x 1.38 inches) | 180 x 280 x 44 mm<br>(7.09 x 11.02 x 1.73 inches) |   |
|                        | Operation Temperature    | 0 to 40 °C (32 to 104 °F)                       |   |   |
|                        | Storage Temperature      | -20 to 70 °C (-4 to 158 °F)                     |   |   |
|                        | Operation Humidity       | 5% to 95% non-condensing                        |   |   |
|                        | EMI/EMC                  | FCC Class B, CE Class B, C-Tick                 |   |   |
|                        | Safety                   | cUL, LVD(EN60950-1)                             |   |   |
|                        | MTBF                     | 250,000 hours                                   | 260,000 hours                                     | 260,000 hours                                 |

<sup>1</sup> VPN throughput is measured using UDP traffic with a 1420 byte packet size, adhering to RFC2544.

<sup>10</sup> The maximum Firewall plaintext throughput is based on RFC2544 testing methodologies.

<sup>11</sup> Actual performance may vary depending on network conditions and activated services.

<sup>12</sup> Available with future firmware upgrade.



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